Bicam User Manual

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In the diagrams you will see the position of the various components, others can be added or removed to construct a variety of systems. At first you may experience a little difficulty, but once used to the logic of the system, everything becomes simple and intuitive.
Some tables will help you to combine the various elements on the basis of the lenses used.

Legenda

1 Top rail for the quick mounting of accessories and the camera overturning.
2 Bottom rail for the fitting of the Flexi Bellow Maxi and other accessories.
3 Shoe to attach the viewfinder.
4 Precise screw control of rise and fall movement of the back element of the camera' body: 15mm up, 15mm down.
5 Rotating knob to lock and unlock the lens board in position.
6 The back ring is a rapid 4-point mounting system with 8° rotation. Two red reference spots indicate the entry position of the attachments.

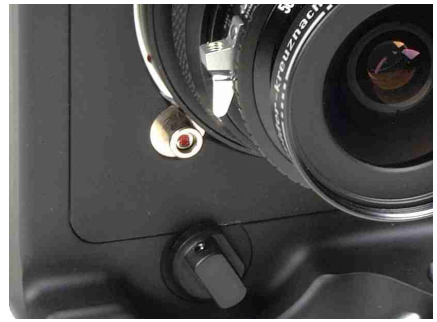
Technical information	
dimensions	height 165mm, lenght 147mm, depth 50mm (compact)
weight	0,80 Kg.
vertical shift	15mm rise, 15mm fall
lenses attachment	Silvestri lens board, Silvestri bayonet
back attachment	Silvestri standard four points attachment
reference code	7000

Thank you for choosing the Bicam camera. If you are a professional photographer or if high quality photography is your passion, your choice could not be a better one. You will understand reading these instructions the great opportunities this camera, unique in its kind, can offer you. First of all the flexibility and the possibility of having a ready to use compact camera that shows to be ideal for outdoor work.

How to attach the lens board

A) Align the red dot on the lens board with the one on the camera body.

B) Insert the top of the lens board first, then push it in the housing.



C) Lock the lens board by rotating the locking knob (5).

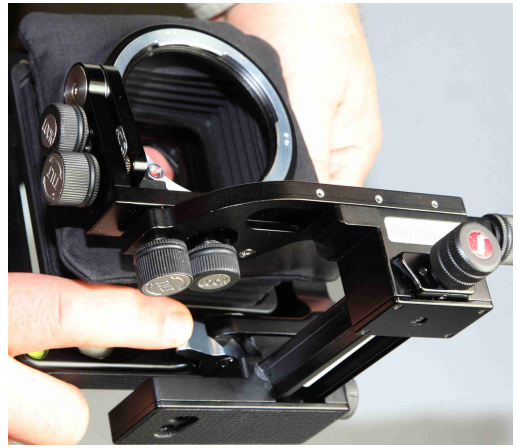
Legenda

A Swing 15 + 15° Micrometric adjustment with locking system.
B Cylindrical and bag combined bellow.
C Bayonet lock button to remove lenses.
D Tilt 15 + 15° Micrometric adjustment with locking system.
E Extension: 75mm with click and micrometric adjustment.
F Possibility to move back the camera standard in order to clear wide angle lenses.
G Side Shift 15 + 15mm.

How to attach the Flexi Bellow Maxi

Flexibellow Maxi is an essential accessory that transforms the Bicam from a camera for architecture into a camera for still life & industrial photography. The steps to attach it to the camera body are simple following this instructions: After having removed the lens board, these three steps has to be followed:

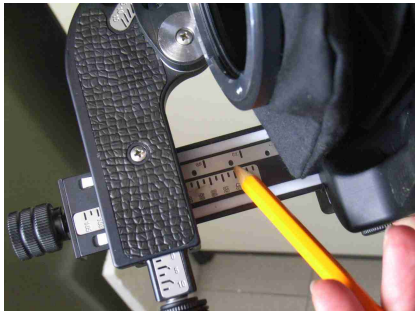
1) Extend the rail to the maximum extent.
Insert the base of the Flexibellow Maxi in the bottom rail housing (2) as shown in the picture.



2) Firmly lock the base by rotating the bottom rail lock (6).

3) Insert the the top side of the bellow frame first

then push it in the housing and rotate the locking knob (5).



Bicam is now a compact view camera. Rise & fall movements, side shift, quick sliding of the back standard, fine focusing, tilt & swing movements.

For the quick sliding of the back standard use the reference dots with click stop on the rail shown in the above picture.

The back standard sliding is used when using wide angle lenses when the rail to get in the field of view or with long focal lenses for a quick adjustment.

The focusing is controlled by the knob (E), micrometric adjustment, or unlocking the back block with the knob (F) and shifting the standard in the desidered position.

Actuator for Hasselblad V lenses

1) Check that the shutter of the Hasselblad lens is loaded, otherwise load it with a flat screwdriver by mean of the special small wheel.
2) Load the Silvestri trigger system until the loading lever arrives to the end of its run.
3) It is only possible to attach the lens under these conditions, even if it fits in, it will not function.
4) Insert the lens on the loading system aligning the red dots.
5) Connect a cable release.
6) Make a single pressure on the cable release, the shutter will close when releasing this pressure.
7) Make a second pressure, the shutter will then perform the exposure time set on the lens.

Digital Lenses in Bayonet

Schneider	Copal 0	Prontor Magnetic	Schneider Electronic
Digitar 2,8/28L	D7202	2329K	2329KS
Apo Digitar 5,6/47XL	D7218	2248K	2248KS
Apo Digitar 4/60N	D7206	2261K	2261KS
Apo Digitar 5,6/72L	D7207	2273K	2276KS
Apo Digitar 4/80N	D7208	2281K	2281KS
Apo Digitar 4,5/90N	D7212	2291K	2291KS
Apo Digitar 5,6/100N	D7214	2214K	2214KS
Apo Digitar 5,6/120N	D7216	2212K	2212KS
Apo Digitar 5,6150N	D7225	2215K	2215KS
Apo Digitar 5,6/180T	D7248	2284K	2284KS
Apo Digitar 5,6/80 M	D7210	2282K	2282KS
Apo DIgitar 5,6/120 M	D7250	2213K	2213KS

Rodenstock	Copal 0	Prontor Magnetic
HR Digaron S 4,5/28mm	D7226	2234K
HR Digaron W 4,0/32mm	D8032	3232K
HR Digaron S 4/35mm	D7228	2236K
HR Digaron W 4,0/40mm	D7448	2346K
HR Digaron W 4,0/50mm	D7450	3250K
HR Digaron S 4/60mm	D7234	2266K
HR Digaron W 5,6/70mm	D7231	2278K
HR Digaron W 5,6/90mm	D7237	2295K
HR Digaron S 4/100mm	D7239	2268K
Apo Sironar Digital 4,5/45mm	D7230	2245K
Apo Sironar Digital 4,5/55mm	D7232	2255K
Apo Sironar Digital 5,6/70mm	D7233	2276K
Apo Sironar Digital 5,6/90mm	D7238	2293K
Apo Sironar Digital 5,6/105mm	D7240	2205K
Apo Sironar Digital 5,6/135mm	D7242	2217K
Apo Sironar Digital 5,6/150mm	D7244	2218K
Apo Macro Sironar 5,6/120mm	D7246	2221K

table 2

How to attach the back extension rings

Bicam back ring Seen in the photo is the rapid 4-point mounting system with 8° rotation.

Mounting a back attachment on the Bicam. After lining up the two red spots, insert the space ring then turn clockwise by 8°. All the other attachments are mounted using this same system.

Beyond the standard extension rings, there are two shiftable rings 15 + 15mm: n°1 and n°2, these rings are used in combination with the suitable lenses (see lens combination table 1). The shift space rings can be used to increase the width of offset, adding to the offset of the camera body. A scale on its side shows the extent of offset. The two offsets must always consider the limits covered by the lens in use (see pages 10 - 11).

WARNINGS

The space rings given in the **table 1** must be used. When carrying out one offset on the camera body and another on the shift space ring, the offsets must never contradict each other. This can cause unpleasant mechanical vignettings.

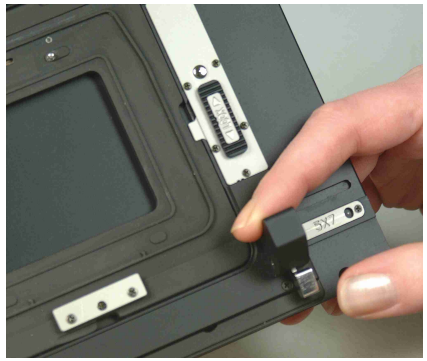
How to attach and detach the back adapters

Line up the red dot on the camera's back ring with the one on the adapter.

Insert the live-video or sliding back adapter then turn clockwise by 8°.

To remove the adapter, press the botton (03) shown in the picture and keep the pressure while rotating the adapter unticlockwise by 8°.

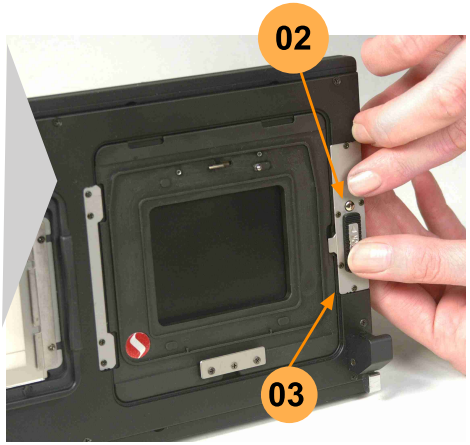
How to operate the sliding back adapter



See the unlocking element in the picture, by acting a slight pressure on it, the sliding element unlocks for passing from the viewing position to the shooting positions:
a) Central with horizontal framing.
b) Shifted 18,5mm to the right (shot 1) shifted 18,5mm to the left (shot 2). The two stitched shots will produce an image 49X72mm with the sensor placed in the vertical position (diagonal 87mm.)

While if the sensor is placed in the horizontal position a final image of 37X86mm will be produced; panoramic format (diagonal 93mm.), see table 3.

In the image you can notice the unlocking cursor of the Hasselblad H adapter plate (03) and the security button (02); to unlock the plate first press the security button (02) and move the cursor (03).



The unlocking of the Hasselblad H digital back is made on the back of the adapter plate. Slide the cursor with the point of a pen and the digital back unlocks, perform the same operation to attach the digital back. Before completely removing the digital back make sure the cursor has moved back to its locking position.

Stitching shooting options

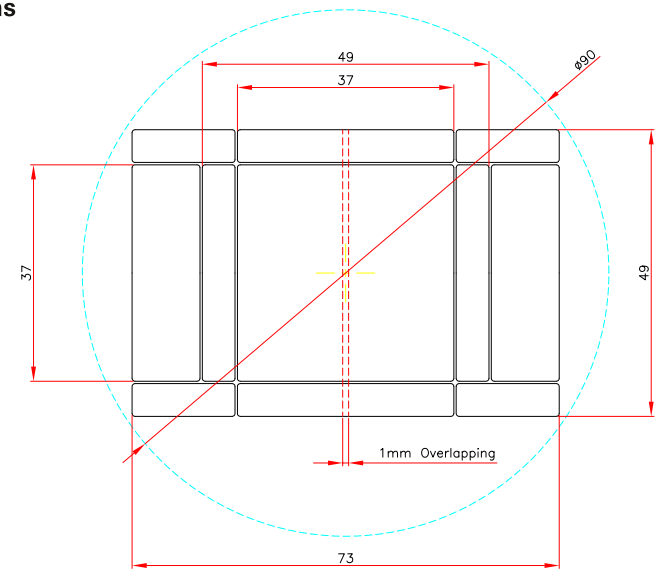


table 3

How to attach, detach & operate the viewfinder

In certain occasions this type of viewfinder simplifies working and helps in making the compostion process faster.

Slide the viewfinder bottom piece in the viewfinder housing (3) and rotate the black locking disk.

A series of format frames are available for specific lenses. The viewfinder has an adjustment option to move the format frame to simulate the 15-0-15mm shift movement.

Digital Frames for viewfinder code 1080B

2024K Viewfinder Frame Digitar 40x40/24mm (for viewfinder cod.1080B)
2028K Viewfinder Frame Digitar 40x40/28mm (for viewfinder cod.1080B)
2035K Viewfinder Frame Digital 40x40/35mm (for viewfinder cod.1080B)
2047K Viewfinder Frame Digitar 40x40/47mm (for viewfinder cod.1080B)
2060K Viewfinder Frame Digitar 40x40/60mm (for viewfinder cod.1080B)
2128K Viewfinder Frame Digitar 40x50/28mm (for viewfinder cod.1080B)
2135K Viewfinder Frame Digitar 40x50/35mm (for viewfinder cod.1080B)
2145K Viewfinder Frame Digitar 40x50/45mm (for viewfinder cod.1080B)
2155K Viewfinder Frame Digitar 40x50/55mm (for viewfinder cod.1080B)

Digital Lenses in focusing mount & accessories

code D7215
Schneider Digitar 24XL in Copal 0 and focusing mount on special board.

code 2334K
Schneider Digitar 35mm XL in focusing mount on special board.

code 2223K
Rodenstock Digaron 23HR in Prontor shutter and focusing mount on special board.

Rodenstock	Copal 0	Prontor Magnetic	Lens board	Extension ring
HR Digaron S 5,6/23mm	D7336	2323K	Special board included	no
HR Digaron S 4,5/28mm	D7326	2232K	Board R code 1119	no
HR Digaron W 4,0/32mm	D7325	2332K		
HR Digaron S 4/35mm	D7328	2235K	Board R code 1119	no
HR Digaron W 4,0/40mm	D7340	2246K	Board R code 1119	no
HR Digaron W 4,0/50mm	D7350	2350K		
HR Digaron S 4/60mm	D7334	2264K	Board R code 1119	n.1 code 3565
HR Digaron W 5,6/70mm	D7339	2275K	Board R code 1119	n.2 code 3575
HR Digaron W 5,6/90mm	D7329	2294K	Board "E" code 1121	n.1 code 3575
HR Digaron S 4/100mm	D7339	2211K	Board "E" code 1121	n.2 code 3575
Apo Sironar Digital 4,5/35mm	D7329	2233K	Special board included	no
Apo Sironar Digital 4,5/45mm	D7330	2244K	Board R code 1119	no
Apo Sironar Digital 4,5/55mm	D7332	2254K	Board R code 1119	3R

Schneider	Copal 0	Prontor Magnetic	Lens board	Extension ring
Apo Digitar 5,6/24XL	D7215	2324K	Special board included	no
Apo Digitar 2,8/28L	D7200	2328K	Board R Cod. 1119	n.1 code 3565
Super Digitar 5,6/28XL	D7218	2428K	Special board included	no
Apo Digitar 5,6/35XL	D7222	2334K	Special board included	no
Apo Digitar 5,6/43	D7243	2243K	Special board included	no
Apo Digitar 5,6/47XL	D7110	2247K	Board R Cod. 1119	no
Apo Digitar 4/60N	D7112	2260K	Board R Cod. 1119	no
Apo Digitar 5,6/72L	D7113	2272K	Board "R" Cod. 1119	n.1 code 3565
Apo Digitar 4/80N	D7114	2280K	Board "R" Cod. 1119	n.2 code 3575
Apo Digitar 4,5/90N	D7116	2290K	Board "F" Cod. 1123	n.1 code 3565
Apo Digitar 5,6/100N	D7118	2210K	Board "E" Cod. 1121	n.1 code 3565

table 1

Remote Control Unit for Prontor and Schneider electronic

The Digital Remote Control Unit 7053K interfaces digital backs, controls the Prontor magnetic shutters, simulates Hasselblad 555ELD. With the Silvestri panoramic base code 7072, produces panoramic shots from 0 to 360°. With the motorized back code D7022 the Control Unit widens the shooting format with two consecutive shots for a 5x7 final format with the new 4x5 backs and a 4x7 format with the 4x4 backs. The Digital Control Unit allows to take 4 and 16 microstep shots. Controls the Prontor Schneider: shutters a) single shot b) multishot with selectable times with increasings of 1/10 diaphragm c) Control full open d) Control of field depth with selectioned diaphragm e) during the depth controlling it is possible to change the work diaphragm.

For full features and instructions read the DRCU user manual.

Rotating Panoramic Base

This accessory allows to make series of panoramic photographs in sequence. The system consists in a Bicam Camera with interchangeable lenses in magnetic shutter, a Remote Control Unit and a digital back. The programmable functions are:

* Number of shots
* Exposure time from 1/125" and 60"
* Total field angle selecting from 0° to 360°.
* Time break between shots.

The system is powered by a 12V battery.

Working apertures, image angles, image circles and movement ranges

Rodenstock HR Digaron

Lens	Image scale	Recom. working f-stop	Image angle	Image circle diameter	Movement range [mm] vertical / horizontal 24x36 mm	37x37 mm	33x44 mm	37x49 mm	36x56 mm	40x54 mm
40 mm f/4	1: ∞	5,6-8	94°	90mm	29 / 25	29 / 25	29 / 25	29 / 25	29 / 25	29 / 25
50 mm f/4	1: ∞	5,6-8	84°	90mm	29 / 25	29 / 25	29 / 25	29 / 25	29 / 25	29 / 25
70 mm f/5.6	1: ∞	5,6-8	70°	100mm	35 / 31	35 / 31	35 / 31	35 / 31	35 / 31	35 / 31
90 mm f/5.6	1: ∞	5,6-11	70°	125mm	48 / 43	48 / 43	48 / 43	48 / 43	48 / 43	48 / 43
23 mm f/5.6	1: ∞	5.6-8	112°	70mm	18 / 15	11 / 11	11 / 9	7 / 5	3 / 2	2 / 2
28 mm f/4.5	1: ∞	5.6-8	101°	70mm	18 / 15	11 / 11	11 / 9	7 / 5	3 / 2	2 / 2
35 mm f/4	1: ∞	5.6	90°	70mm	18 / 15	11 / 11	11 / 9	7 / 5	3 / 2	2 / 2
60 mm f/4	1: ∞	5.6	60°	70mm	18 / 15	11 / 11	11 / 9	7 / 5	3 / 2	2 / 2
100 mm f/4	1: ∞	5.6	39°	70mm	18 / 15	11 / 11	11 / 9	7 / 5	3 / 2	2 / 2
180 mm f/5.6	1: ∞	5.6-8	25°	80mm	24 / 20	17 / 17	17 / 14	13 / 11	11 / 8	9 / 8

Rodenstock Apo Sironar digital / Apo-Macro-Sironar digital

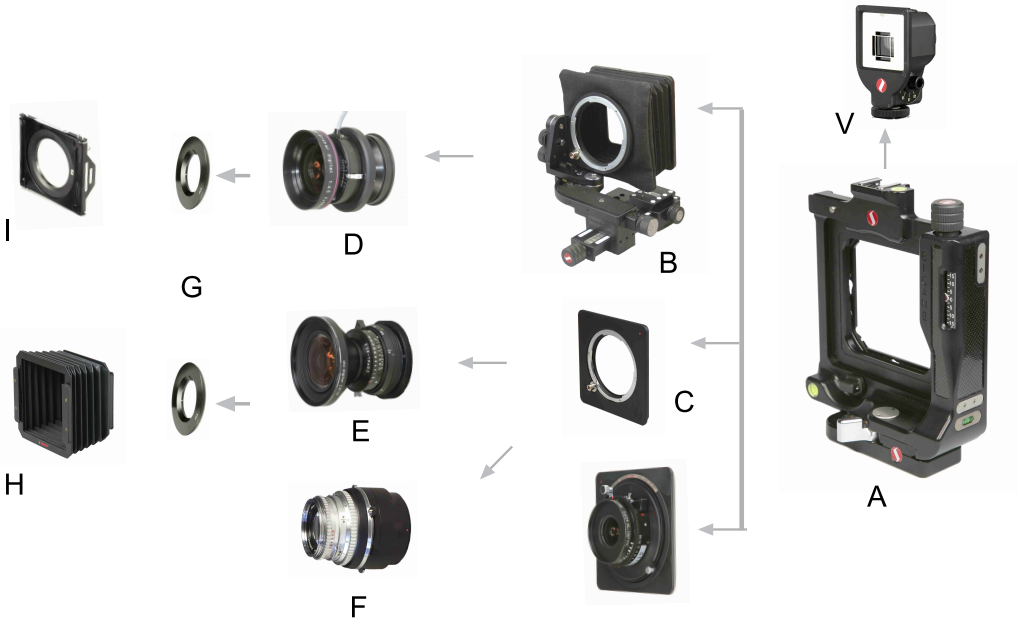
35 mm f/4.5	1: ∞	8-11	111°	105mm	28 / 25	26 / 21	25 / 22	21 / 18		
45 mm f/4.5	1: ∞	8-11	107°	125mm	39 / 35	38 / 32	36 / 32	32 / 29	8 / 7	4 / 3
55 mm f/4.5	1: ∞	8-11	95°	125mm	39 / 35	38 / 32	36 / 32	32 / 29	8 / 7	4 / 3
105 mm f/5.6	1: ∞	8-11	62°	125mm	39/ 35	38 / 32	36 / 32	32 / 29	8 / 7	4 / 3
135 mm f/5.6	1: ∞	8-11	58°	150mm	53/ 48	52 / 45	50 / 45	46 / 42	25 / 22	2 1/ 18
150 mm f/5.6	1: ∞	8-11	53°	150mm	53 / 48	52 / 45	50 / 45	46 / 42	25 / 22	2 1/ 18
180 mm f/5.6	1: ∞	8-11	45°	150mm	53 / 48	52 / 45	50 / 45	46 / 42	25 / 22	2 1/ 18
120 mm f/5.6	1:5 - 2:1	8-11	55°-24°	150mm	53 / 48	52 / 45	50 / 45	46 / 42	25 / 22	2 1/ 18

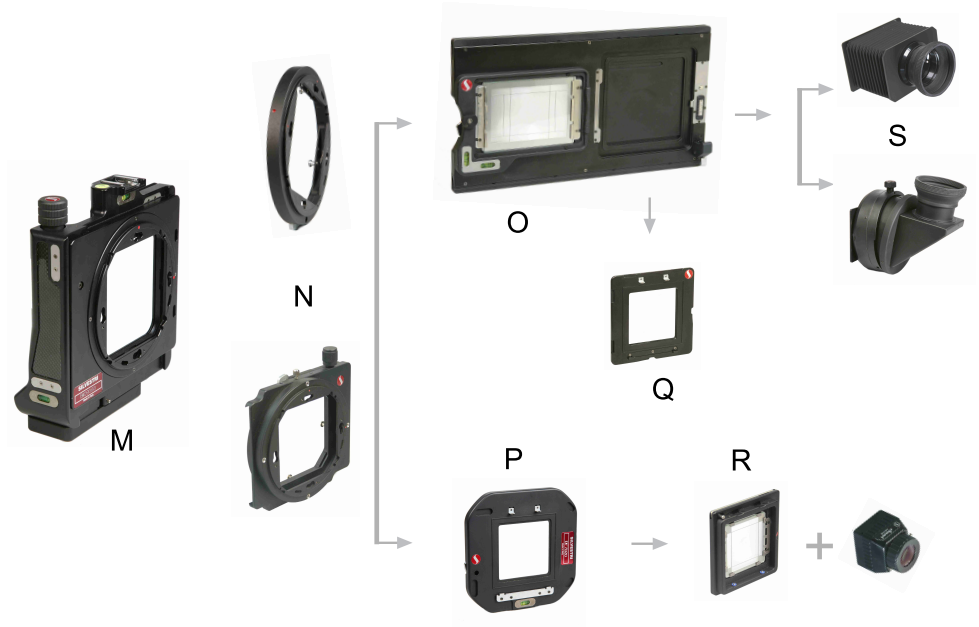
Schneider Apo Digitar

Lens	center filter	Recom. working f-stop	Image angle	Image circle diameter	Movement range [mm] vertical / horizontal 24x36 mm	31x31 mm	37x37 mm	36x48 mm	37x49 mm	63x63 mm
5.6/24 XL	IId	5.6-11	100°	60mm	12 / 9.5	10 / 10	5.1 / 5.1	0 / 0		
2.8/28 L		2.8-11	92°	60mm	12 / 9.5	10 / 10	5.1 / 5.1	0 / 0		
5.6/35 XL	IIf	5,6-11	88°	70mm	29 / 25	27 / 27	23 / 23	20 / 17	19 / 17	0.6 / 0.6
5.6/47 XL	II	8-11	92°	98mm	42 / 37	39 / 39	35 / 35	33 / 30	32 / 29	15 / 15
4.0/60 N		4-11	53°	60mm	12 / 9.5	10 / 10	5.1 / 5.1	0 / 0		
5.6/72 L		5.6-11	62°	90mm	29 / 25	27 / 27	23 / 23	20 / 17	19 / 17	0.6 / 0.6
4.0/80 L		5.6-11	53°	80mm	29 / 25	27 / 27	23 / 23	20 / 17	19 / 17	0.6 / 0.6
4.5/90 N		4.5-11	53°	90mm	29 / 25	27 / 27	23 / 23	20 / 17	19 / 17	0.6 / 0.6
5.6/100 N		5.6-11	53°	100mm	35 / 31	32 / 32	28 / 28	26 / 23	25 / 22	7.3 / 7.3
5.6/120 N		5.6-11	48°	110mm	40 / 36	37 / 37	33 / 33	31 / 28	31 / 27	14 / 14
5.6/150 N		5.6-11	40°	110mm	40 / 36	37 / 37	33 / 33	31 / 28	31 / 27	14 / 14
5.6/180 T		5.6-11	37°	120mm	45 / 41	42 / 42	39 / 39	37 / 33	36 / 33	20 / 20

Schneider Macro Apo Digitar

Lens	scale	Recom. working f-stop	Image angle	Image circle diameter	Movement range [mm] vertical / horizontal 24x36 mm	31x31 mm	37x37 mm	36x48 mm	37x49 mm	63x63 mm
Apo digitar 5.6/80M	1:4	5.6-11			21 / 18	19 / 19	14 / 14	11 / 8.9	9.9 / 8.1	
At scales exceeding 1:1	1:2	5.6-11			24 / 20	22 / 22	17 / 17	14 / 12	13 / 11	
the lens should not be	1:1	5.6-8	28°	80mm	24 / 20	22 / 22	17 / 17	14 / 12	13 / 11	
stopped down because	2:1	5.6	18.6°	80mm	24 / 20	22 / 22	17 / 17	14 / 12	13 / 11	
of increasing diffraction	4:1	5.6	12.6°	90mm	29 / 25	27 / 27	23 / 23	20 / 17	19 / 17	0.6 / 0.6
Apo Digitar 5.6/120 M	1:4	5.6-11			24 / 20	22 / 22	17 / 17	14 / 12	13 / 11	
At scales exceeding 1:1	1:2	5.6-11			29 / 25	27 / 27	23 / 23	20 / 17	19 / 17	0.6 / 0.6
the lens should not be	1:1	5.6-8	26°	110mm	40 / 36	37 / 37	33 / 33	31 / 28	31 / 27	14 / 14
stopped down because	2:1	5.6	17.4°	110mm	40 / 36	37 / 37	33 / 33	31 / 28	31 / 27	14 / 14
of increasing diffraction	4:1	5.6	10.5°	110mm	40 / 36	37 / 37	33 / 33	31 / 28	31 / 27	14 / 14





A	7000	Bicam Body only without back & lens board, with 15 + 15mm shift
B	7002	Flexi Bellow Maxi
C	1119	Lens Board R with Silvestri Bayonet for Bicam
	1123	Lens Board with bayonet Type F (17,55mm)
	1121	Lens Board with bayonet Type E (24,8mm)
D	-	see table 2 on page 9
E	-	see table 1 on page 4
F	1150	Actuator for Hasselblad V lenses with Silvestri bayonet - long
	1152	Actuator for Hasselblad V lenses with Silvestri bayonet - short
G	3306	Adapter Ring 40.5mm (for codes 3300 & 3305)
	3307	Adapter Ring 49mm (for codes 3300 & 3305)
	3308	Adapter Ring 52mm (for codes 3300 & 3305)
	3309	Adapter Ring 58mm (for codes 3300 & 3305)
	3310	Adapter Ring 67mm (for codes 3300 & 3305)
	3313	Adapter Ring 72mm (for codes 3300 & 3305)
	3315	Adapter Ring 77mm (for codes 3300 & 3305)
	3317	Adapter Ring 82mm (for codes 3300 & 3305)
	3318	Adapter Ring 86mm (for codes 3300 & 3305)
	3319	Adapter Ring 95mm (for codes 3300 & 3305)
H	3305	Bellow Filter Holder Combination 100mm
I	3300	Wide Angle Filter Holder 100x100mm
V	1080B	Shiftable Viewfinder with spirit level

M	7000	Bicam Body only without back & lens board, with 15 + 15mm shift
N	3547	Extension ring n. 0
	3565	Extension Ring N.1
	3565B	Extension Ring N.1 shiftable 15 + 15mm
	3575	Extension Ring n. 2
	3575B	Extension Ring N.2 shiftable 15 + 15mm
O	D7023	Slide Adapter 5x7 with Silvestri Attachment (without Drop-in Plate)
P	DF7020	Adapter with Hasselblad V 6x6 interface
	DF7019	Adapter with Hasselblad H interface
	DF7013	Adapter with Contax 645 interface
	DF7015	Adapter with Mamiya 645 AFD interface
Q	D7023H	Drop-in Plate for Slide Adapter 5x7 Hasselblad 'H' type (for D7023)
	D7023V	Drop-in Plate for Slide Adapter 5x7 Hasselbald 'V' type (for D7023)
	D7023M	Drop-in Plate for Slide Adapter 5x7 Mamiya 645 AFD type (for D7023)
	D7023C	Drop-in Plate for Slide Adapter 5x7 Contax 645 type (for D7023)
	D7023A	Drop-in Plate for Slide Adapter 5x7 AFI type (for D7023)
R	D7016	Hassel Type - Metal Frame 6x6 + Lupe 4x
S	5010	Magnifying Glass in Bellow for 5x7 stitching slide adapter D7023
	5030	Rotating Reflex Viewfinder for 5x7 stitching slide adapter D7023

Care instructions

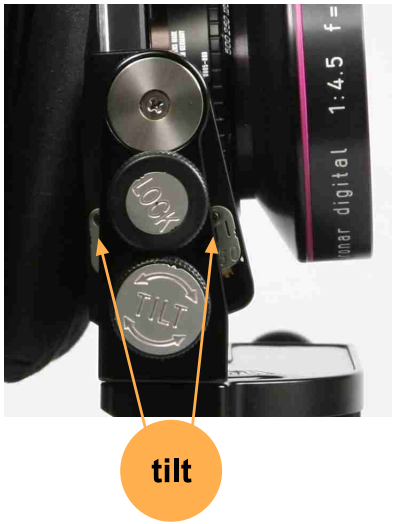
! Do not force the rise and fall movement when it gets to the end.

! Be careful of keeping all shifting elements clean.

! Regularly clean the Flexi Maxi rail with compressed air and paper, to remove dust, sand etc.

! Do not force the shift and tilt movements, make sure you have completely unlocked the locking knobs before using the tilt and swing controls.

! To remove the bellow of the Flexi Maxi from the camera body, do not pull the bellow but push the bellow frame through the camera back's opening.

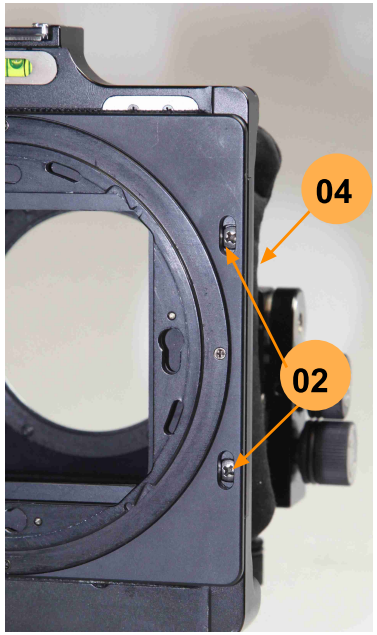


Camera adjustment

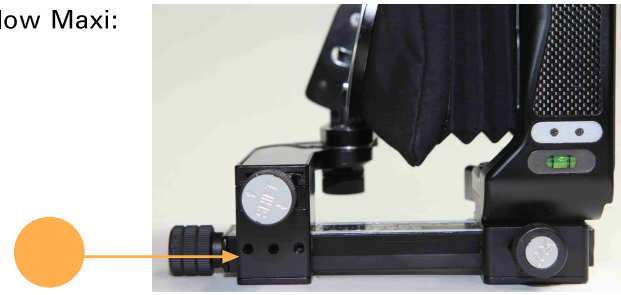
The precision of each movement of the camera is adjustable by mean of microscrews, see the following pictures showing where to find the microsrews for each movement:

Rise & fall movement:

Untighten the microscrews, push the side bar (04) in and tighten the screws (02).



Focusing system on Flexi Bellow Maxi:



Side shift on Flexi bellow Maxi: